

What is claimed is:

1. A lock mechanism for locking a movable member to a base member, comprising:

5 a cam provided on one of the base member and the movable member, and having a projection with a roughly heart shape and a swing groove formed around the projection,

a swing member movably provided on the other of the base member and the movable member, and having a pin for tracing the swing groove, and

10 auxiliary means provided on said one of the base member and the movable member, said auxiliary means contacting the swing member while the pin is tracing the swing groove so that the auxiliary means allows the swing member to move properly.

15 2. A lock mechanism according to claim 1, further comprising urging means for urging the movable member relative to the base member so that the movable member is stopped at a first position through an engagement of the pin and the projection by pushing the movable member against a force of the urging means, and the
20 engagement is released by pushing the movable member again to allow the movable member to move to a second position.

3. A lock mechanism according to claim 1, wherein said auxiliary means is a spring member.

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4. A lock mechanism according to claim 3, wherein said spring member is located adjacent to the cam and contacts a tip of the swing member when the swing member is moved close to the projection, said spring member urging the swing member from one
30 side of the projection toward the other side of the projection.

5. A lock mechanism according to claim 4, wherein said spring member contacts the swing member with a force larger than a momentum applied to the swing member downwardly.

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6. A lock mechanism according to claim 5, wherein said cam is arranged to face laterally so that the spring member pushes the swing member upwardly.

10 7. An opening-closing device comprising said movable member, said base member, said lock mechanism, and said urging means according to claim 2, wherein the movable member is switched between the first position where the movable member closes an opening of the base member and the second position where the opening is opened,
15 and said cam is arranged to face laterally.

8. An opening-closing device of the movable member according to claim 7, further comprising arms rotatably attached to side walls of the base member, said movable member being rotatably attached
20 to the arms and having a plate extending downwardly therefrom and moving along grooves formed on the side walls, said plate being pivotally connected to the swing member.